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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/770,491

01/29/2001

Janne Kallio

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32294

7590

06/13/2008

SQUIRE, SANDERS & DEMPSEY L.L.P.

8000 TOWERS CRESCENT DRIVE

14TH FLOOR

VIENNA, VA 22182-6212

EXAMINER

D AGOSTA, STEPHEN M

ART UNIT

PAPER NUMBER

2617

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/770,491	<b>Applicant(s)</b> KALLIO, JANNE	
	<b>Examiner</b> Stephen M. D'Agosta	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 31-33,35-43,45-56 and 58-81 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31-33,35-43,45-53, 55-56, 58-60 and 62-81 is/are rejected.
- 7) ☒ Claim(s) 54 and 61 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments, see amendment, filed 5-6-2008, with respect to the rejection(s) of claim(s) under USC 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made.

1. Several points are made by the examiner, and are the reason for not going Final:

a. The examiner has re-read the applicant's last amendment (eg. Remarks/Arguments) and notes the following:

-- they appear to attack the references individually, eg. page 17 states that Ray discloses a handoff within only a GSM network but the additional prior art, eg. at least Vikberg, teaches handoff between two different networks, eg. cellular/GSM and Bluetooth).

-- Next, the applicant's argument about Vikberg being the "closest" to teaching the applicant's inventive concept falls short since it does not provide any arguments, it just merely "disagrees" that Vikberg does not read on the art, yet he teaches that his Bluetooth/Hybrid BTS defines a cell (eg. cell id, etc) in a "similar manner" to the GSM BTS, which reads on the claim. The other prior art teaches use of Cell ID to identify a cell.

-- The examiner also reminds the applicant that the **recent landmark KSR ruling** puts forth that simple substitution of one known element or application for another to a piece of prior art ready for improvement is not patentable under 35 USC 103(a). Accordingly, the claims are viewed as a combination that only unites elements with no change in respective functions of those elements and said combination yields predictable results. Absent evidence that the modifications necessary to effect the combination of elements is **uniquely challenging or difficult for one of ordinary skill** the claims are also deemed unpatentable.

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b. Vikberg clearly teaches two different networks a mobile user can connect to whereby the one network stores (or broadcasts) itself as a base station of the other network (C5, L5-30), which reads on the claims.

"..The element of the fixed access network portion 10' adapted to communicate across the Bluetooth interface is designated a local or home base station (HBS) 104. This element handles the radio link protocols with the mobile terminal MT 1 and **contains radio transceivers that define a cell in a similar manner to the operation of a conventional GSM base station transceiver BTS 103.** The home base station HBS 104 is controlled by a home base station controller HBSC 105, which communicates with a mobile service switching centre MSC 202 over the GSM standard A interface and also with a serving GPRS support node SGSN 203 over a standard Gb interface, if available in the core network portion. The interface between the home base station HBS 104 and its home base station controller HBSC 105 is designated a Y-interface. The home base station controller RBSC 105 provides the connection between the MSC 202 or SGSN 203 and mobile terminal 1. The joint function of the home base station HBS 104 and the home base station controller HBSC 105 emulate the operation of the BSS 101 towards the SGSN 203 and MSC 202. In other words, when viewed from the elements of the core network 20 such as the mobile service switching centre (MSC) 202 and the serving GPRS support node (SGSN) 203, **the fixed access network portion 10' constituted by the home base stations HBS 104 and the home base station controller HBSC 105 looks like a conventional access network portion 10."**

c. The second point to be made is that the ability to store data in "any" format cannot be governed. Meaning, there appears to be no way for the first network to control/enforce what format the second network uses to identify its cell id. Furthermore, it is certainly possible that the two networks "accidentally" use the same exact naming convention for their cell ids which would then inherently store the first in a format as a second, Eg. if the cell id format is simply a 4-digit number, say 0-9999, then each network would store the cell id in the same format and the ability to enforce this inventive concept would be difficult (impossible?).

Perhaps a more inventive concept would be to amend the claims such that they state the "entire network's identity" is stored in a similar format (which would then be

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much more focused and the possibility the two network operators use the same would be virtually impossible. The examiner interprets the "entire network identity" to be considerably more than just the cell id (eg. channels, frequencies, LA, network id, etc.).

Also note that Vikberg states "similar format" which is not the "exact" format which is what the examiner is suggesting (eg. similar means "some" while "exact" mean "all").

c. The examiner has put forth a USC 101 rejection and USC 112 rejection regarding the computer code claim (eg. #81) for two reasons:

i) There appears to be no **explicit discussion** (or support) for a computer program in the specification (and there is no flow-diagram in the figures to suggest this concept).

ii) The language is not per USPTO accepted format, Examples of acceptable language in computer-processing related claims :

1. "computer readable medium" encoded with \_\_\_\_\_
  - [a] "a computer program"
  - [b] "software"
  - [c] "computer executable instructions"
  - [d] "instructions capable of being executed by a computer"
2. "a computer readable medium" \_\_\_\_\_ "computer program"
  - [a] storing a
  - [b] embodied **with** a ← claim 81 states "embodied on"
  - [c] encoded with a
  - [d] having a stored
  - [e] having an encoded

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The claimed invention is directed to non-statutory subject matter.

1. **Claim 81** defines a computer readable medium that should be "**embodied with**" a computer program.

The examiner notes that this cannot be a signal or carrier wave.

2. **Claims 31, 36, 49, 76 and 77** recite method steps that are not limited from only occurring in a computer processor (which is non-statutory). The applicant should amend these claims to identify how/where these methods are being performed.

***Claim Rejections - 35 USC § 112 (First Paragraph)***

The following is a quotation of the ***first paragraph*** of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claim 81** rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The disclosure of a computer program critical or essential to the practice of the invention, but included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

The examiner finds no evidence/support in the specification (or figures) that a computer program was contemplated.

***Claim Rejections - 35 USC § 112 (Second Paragraph)***

The following is a quotation of the ***second paragraph*** of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 31, 36, 49, 76 and 77** rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01.

While these claims are “method” claims, the examiner notes that they do not recite “what device” is performing the method. These claims merely recite that steps occur but do not recite where and thus they simply read on a computer program and not a method (eg. the method steps as written can be performed in a computer processor and thus are not compliant).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 31-33, 35-36, 37-38, 39-43, 45-51, 55-56, 58-59, 60, 62 and 64-81**

rejected under 35 U.S.C. 103(a) as being unpatentable over Ray et al. US 6,424,638 and further in view of {Keski-Heikkilä et al. US 6,882,844 or Vikberg et al. US 6,925,074} and Ritter US 6,289,221.

As per **claims 31, 36, 42, 46, 49, 55, 59, 62 and 76-81**, Ray teaches an apparatus for a first telecommunication network (Abstract teaches a mobile handing over between two different networks), the apparatus comprising:

a data store to store a cell identity information for a cell of the first telecommunication network (Figure 1, shows an HLR #26 and VLR #16),

wherein the apparatus is configured to allow the cell of the first telecommunication network to be identified as a neighboring cell ~~by a cell~~ of the second telecommunication network (Abstract teaches serving and target MSC's which inherently infers a target BTS/cell which will support the mobile after handoff. The examiner notes that neighbor lists are well known in cellular networks and inherently include a list of BTS's the mobile can handoff to, depending upon their location and signal strength),

**but is silent on** using a cell identity information structure of a second telecommunication network.

The examiner notes that Ray teaches the need to translate protocols and data between the two networks:



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With all of these different types of wireless communications systems available, seamless roaming from one type of system to another has posed significant problems for the industry. For example, if a mobile subscriber is involved in a wireless call, and the call needs to be handed over to another type of system in order to continue the call, conversion and interface devices are needed to perform this task. One device that exists today to perform such handovers between D-AMPS and GSM systems is a Roam-Free Gateway (RFG), formerly known as an Interworking Location Register (ILR). The RFG acts as a gateway that converts the protocols of the **signaling** and voice communications between the systems to enable the two systems to communicate effectively in order to perform call handovers. (C1, L39-56)

Therefore, in accordance with aspects of the present invention, the currently serving GSM MSC 14a sends an identity message 315, including location information 318, e.g., X, Y coordinates and preferably a coverage area radius, for the GSM base station 25a, to an Internet Gatekeeper 320 via an Internet Gateway 310a for the GSM system 350 (step 415). The GSM Internet Gateway 310a converts the GSM identity message 315 into Internet Protocol (IP) packets 335 containing the identity message 315 and location information 318, and routes the IP packets 335 through an Internet 330 to the Internet Gatekeeper 320 for the area that includes the GSM MSC 14a. This identity message 315 preferably inquires whether there are any other types of wireless systems nearby that the call can be handed over to. Alternatively, the GSM MSC 14a may have knowledge about the existence of another type of system nearby, and the identity message 315 may seek confirmation of the existence of the other type of system from the Internet Gatekeeper 320. (C4, L52 to C5, L5)

**Vikberg teaches a High Speed access point which “mimics” a cellular BTS in regard to the information it broadcasts (C5, L5-30):**

The element of the fixed access network portion 10' adapted to communicate across the Bluetooth interface is designated a local or home base station (HBS) 104. This element handles the radio link protocols with the mobile terminal MT 1 and contains radio transceivers **that define a cell in a similar manner to the operation of a conventional GSM base station transceiver BTS 103.** The home base station HBS 104 is controlled by a home base station controller HBSC 105, which communicates with a mobile service switching centre MSC 202 over the GSM standard A interface and also with a serving GPRS support node SGSN 203 over a standard Gb interface, if available in the core network

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portion.....In other words, when viewed from the elements of the core network 20 such as the mobile service switching centre (MSC) 202 and the serving GPRS support node (SGSN) 203, **the fixed access network portion 10' constituted by the home base stations HBS 104 and the home base station controller HBSC 105 looks like a conventional access network portion 10.**"

**Keski-Heikkilä** teaches a permanent Cell ID (see C4, L39-46) which can be viewed as a "common" Cell ID format. Hence, the applicant uses one network's structure to represent the Cell ID while Keski-Heikkilä uses a method whereby his "permanent" format can be used in a similar manner, eg. sending the mobile the permanent Cell ID. Furthermore, Keski-Heikkilä teaches generically modifying the Cell ID format/structure which broadly reads on the applicant's broad claims.

**Ritter** teaches a mobile system (Abstract) whereby coverage areas are supported by multiple wireless technologies (eg. figure 1 shows each "cell" supporting both GSM and TD/CDMA technologies which connect to a **COMMON BSC/MSC** architecture). The examiner notes that since the cells connect back to a common BSC/MSC architecture, that the system can inherently provide a handoff from one technology to the other which would thus occur if one system is being interfered with while the other is not. Hence These two BTS's can conceivably transmit either separate beacons and/or dual beacons whereby each technology can look like the other technology simply because they use a common BSC/MSC architecture).

It would have been obvious to one skilled in the art at the time of the invention to modify Ray, such using a cell identity information structure of a second telecommunication network and one network being either WLAN, Bluetooth or WCDMA, to provide means for using an "alternate" Cell ID to make the mobile think that a listing in the neighbor list is from the same network they are operating on currently and that they can connect to it in a handoff operation.

**With further regard to claims 36, 46, 59 and 77**, the combination of Ray, Keski-Heikkilä and Ritter together teaches wherein the cell identity of the second network

comprises at least one of frequency, BTS ID or location area (eg. Ritter teaches transmitting frequency information, eg. carrier, see figures 4, 5 and 6).

***With further regard to claims 42, 49, 78-79 and 81,*** the combination of Ray, Keski-Heikkilä and Ritter together teach a method to support a seamless mobility/handoff between the two networks.

***With further regard to claims 64-75,*** the combination of Ray, Keski-Heikkilä and Ritter together teach a method to networks comprised of WLAN, Bluetooth and/or WCDMA.

As per **claims 32 and 47**, Ray teaches claim 31/42, wherein the apparatus is a network element (Figure 1, shows an HLR #26 and VLR #16 which are network components/elements).

As per **claim 33**, Ray teaches 33. (New) The apparatus as claimed in claim 31, wherein the data store is a database (Figure 1, shows an HLR #26 and VLR #16 which are databases),

As per **claims 35, 45 and 58**, Ray teaches claim 35/42/55, wherein the second telecommunication network is GSM network (Abstract teaches GSM network(s)).

As per **claim 37**, Ray teaches claim 31 wherein the apparatus has radio transceivers for transmitting the cell information (the storage unit can be located in the HLR and information is transmitted via the BTS transceiver).

As per **claim 38**, Ray teaches claim 31, wherein the apparatus further comprises a handover algorithm which provides seamless mobility between the first telecommunication network and second telecommunication network (Abstract teaches handover).

As per **claim 40**, Ray teaches claim 38, wherein the mobile is in either IDLE or ACTIVE state (Ray teaches handoffs whereby the mobile can receive control/network data while either in ACTIVE or IDLE mode, eg. both active and idle-mode handoffs are well known).

As per **claim 41**, Ray teaches claim 32 wherein the apparatus is an access point (the storage unit can be located at the HLR and/or at each BTS proximate a second RF network).

As per **claims 43 and 56**, Ray teaches claim 42/55, further comprising means of measuring of signal level of radio transmitters in the first telecommunication network and the second telecommunication network (C3, L45-46 teaches "collecting measurements" which are signal level measurements).

As per **claim 48**, Ray teaches claim 31 wherein the handover module has been implemented in the mobile unit (the examiner takes Official Notice that MAHO handoffs are well known and are assisted by the mobile).

As per **claim 50**, Ray teaches claim 49 further comprising storing the cell information in a neighbor list of neighboring cells of the second telecommunication network (neighbor lists are inherent to cellular networks and Official Notice is taken).

As per **claims 51-52 and 63**, Ray teaches claim 49 wherein the transmitting is done in a cell of the second network (eg. the proximate network transmits a beacon which is received by a first network and it can be included in the neighbor list) AND Cell-ID information of the cell of the first network includes neighbor information given by the cell of the second network (see rejection(s) for independent claim(s), eg. claim 49 or 55). further comprising storing the cell.

As per **claim 60**, Ray teaches claim 55, wherein the mobile station has means for transmitting the signal level to at least one of the first telecommunication network and the second telecommunication network (C3, L45-46 teaches both the MS or BTS taking measurements. MAHO handoffs are well known and the mobile takes measurements and send them to the network)

***Allowable Subject Matter***

**Claims 54 and 61** objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. D'Agosta whose telephone number is 571-272-7862. The examiner can normally be reached on M-F, 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dwayne Bost can be reached on 571-272-7023. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen M. D'Agosta/  
Primary Examiner, Art Unit 2617